

Supporting Information

A Novel Photoelectrochemical Sensor for the Detection of α -Fetoprotein Based on Mesoporous TiO₂-CdS QDs Composite Film

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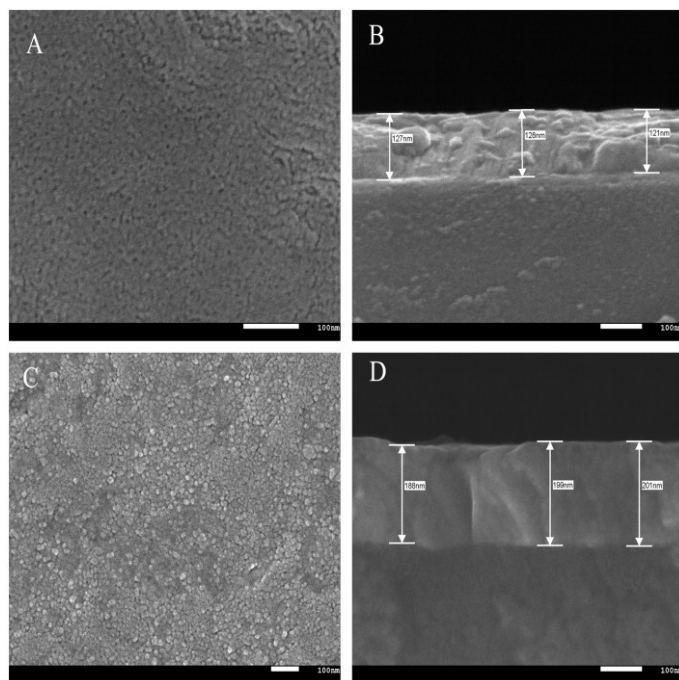


Fig. S1. The SEM of mesoporous TiO_2 film and $\text{CdS}/\text{TiO}_2/\text{ITO}$ film

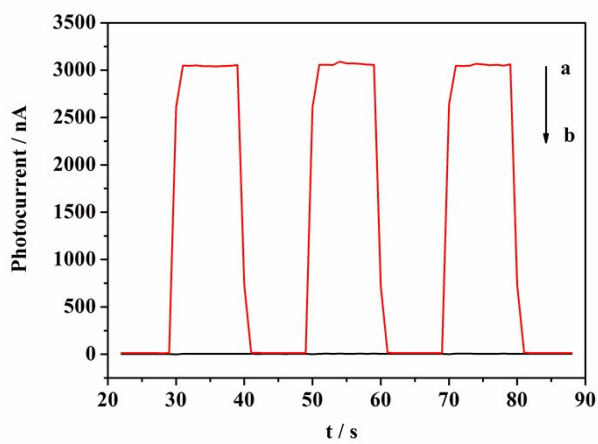


Fig. S2. Photocurrent responses of (a) $\text{CdS}/\text{TiO}_2/\text{ITO}$ and (b) TiO_2/ITO in 0.01 M PBS solution (pH=7.4) containing 0.1 M ascorbic acid solution as electron donor with a light excitation at 400 nm.

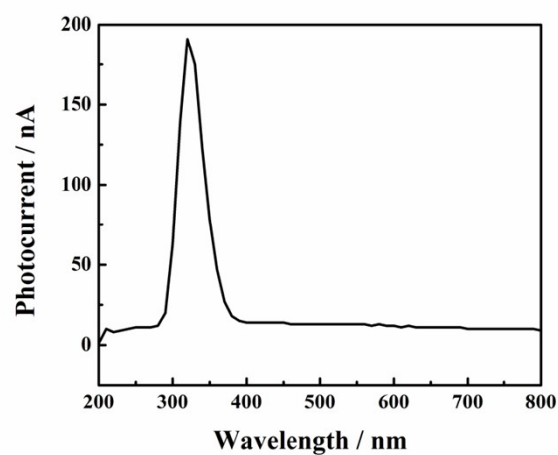


Fig. S3. Wavelengths scanning of TiO₂/ITO electrode in 0.01 M PBS suffer solution (pH=7.4) containing 0.1 M ascorbic acid solution as electron donor

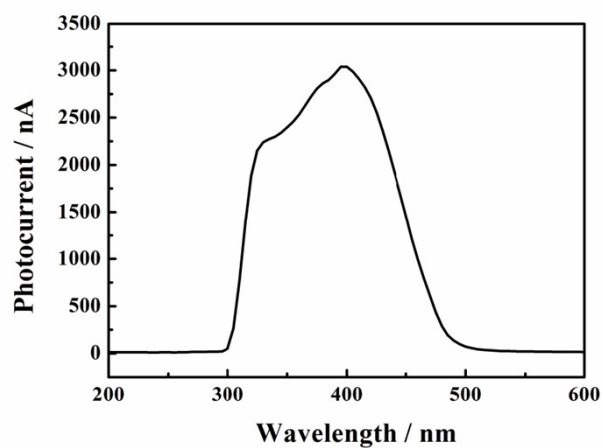


Fig. S4. Wavelengths scanning of CdS/TiO₂/ITO electrode in 0.01 M PBS suffer solution (pH=7.4) containing 0.1 M ascorbic acid solution as electron donor

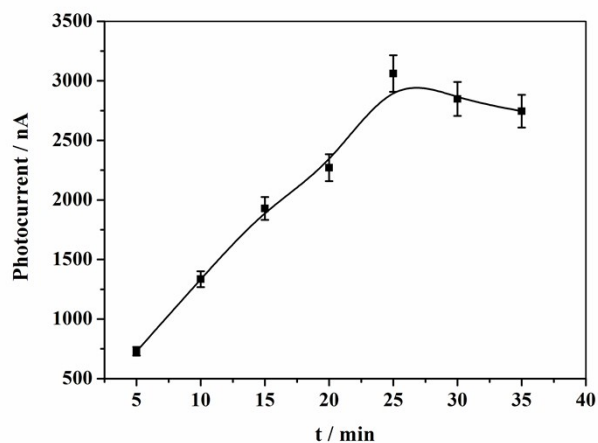


Fig. S5. Photocurrent change for CdS/TiO₂/ITO with different deposition time of CdS in 0.01 M PBS suffer solution (pH=7.4) containing 0.1 M ascorbic acid solution as electron donor with a light excitation at 400 nm.

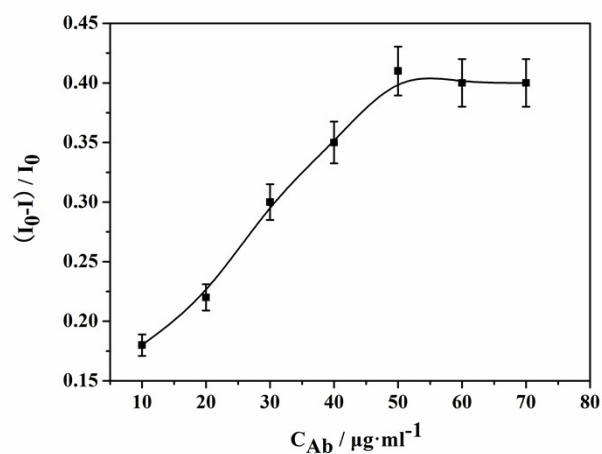


Fig. S6. Photocurrent change for different concentrations of anti-AFP on CdS/TiO₂/ITO in 0.01 M PBS suffer solution (pH=7.4) containing 0.1 M ascorbic acid solution as electron donor with a light excitation at 400 nm.

Table S1. The recovery studies of AFP

sample	original (ng/mL)	added (ng/mL)	found (ng/mL)	recoveries	average recoveries
1	0.474	1.00	1.42	94.6%	
2	1.02	1.00	2.11	109%	103%
3	5.15	1.00	6.20	105%	